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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,337	02/12/2002	Eiji Sugawara	FUJH 19.422	5702
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/074,337	Applicant(s) SUGAWARA ET AL.	
	Examiner Habte Mered	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,11,13 and 15 is/are rejected.
- 7) ☒ Claim(s) 6,8,10,12,14 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/12/2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-16 are examined.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alagar et al (US Pub. No. 2003/0169470), hereinafter referred to as Alagar, in view of NICC (Network Interoperability Consultative Committee (NICC), "SDH Interconnect Between UK Licensed Operators Overview", September 2000, Issue 6).

Alagar teaches a system for use in bi-directional path switched ring network for detecting a failed optical path so as to allow signals from the failed optical path to be re-routed via the provided protection path.

4. Regarding **claim 1**, Alagar teaches an SDH ring network (**See Figure 22 and Paragraph 144. The ring shown in the figure is generic and applicable to both SONET and SDH system**) comprising: a transmission & reception node (**See Figure 21 and one can see from the figure each node has the ability to receive and transmit and can be a source and/or destination node.**); and a PCA insertion & reception node, which are interconnected in a ring form (**See Figure 21 and 22**), the transmission & reception node including, a first function portion for setting a working

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path and a protection path in advance (**See Figure 23 and Paragraph 144**), , and a path switch for selecting either the working path or the protection path depending on the state of the received K3 or K4 byte (**See Paragraphs 130 and 142**), and the PCA insertion & reception node including, an insertion switch for selecting either a received signal is to be passed through or a PCA (Protection Channel Access) signal is to be inserted thereto (**See Paragraphs 131-132**), and a bridge for dropping a received signal and at the same time passing through the received signal. (**See Paragraph 133**).

Alagar fails to expressly disclose a second function portion for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path.

The NICC document discloses the standards for SDH interconnect between UK licensed operators.

NICC discloses a function portion for setting a transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. (**See Virtual Container (VC) Protection Section on page 23.**)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Alagar's apparatus to incorporate for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. The motivation being Alagar describing in Paragraph 40 that signaling protocol may be embedded in some overhead layer in the case of non-SONET traffic which SDH is an example and NICC document adequately describes the implementation detail on page 23.

5. Regarding **claim 2**, Alagra discloses a SDH ring network, when the network is maintained in an ordinary state having no failure, a signal condition SC indicating `PCA inapplicable` is set for the working path, while a signal condition SC indicating `PCA applicable` and a switch condition SWC indicating `switchover not requested` are set for the protection path, and when a failure is detected on the working path, a switch condition SWC indicating `request for switchover` is set to transmit, and on receipt of the switch condition SWC indicating `request for switchover`, a signal condition SC indicating `PCA inapplicable` is set for the protection path. **(See Figure 7 and Paragraphs 120 and 121. Alagar's system has the capability to indicate a request to switch from active or working channel to a protected channel and vice versa. It has ability to indicate to each node that if the switch to PCA is needed or if transmission is to persist on the WCA. Further it is not clear if signal condition is the value of the signal or the condition that caused the signal to assume such a value.)**

Alagar fails to expressly disclose a second function portion for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path.

NICC discloses a function portion for setting a transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. **(See Virtual Container (VC) Protection Section on page 23.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Alagar's apparatus to incorporate for setting transmission

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value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. The motivation being Alagar describing in Paragraph 40 that signaling protocol may be embedded in some overhead layer in the case of non-SONET traffic which SDH is an example and NICC document adequately describes the implementation detail on page 23.

6 Regarding **claim 3**, Alagar discloses a SDH ring network, wherein, when receiving a pass-through signal having the signal condition SC of 'PCA applicable', the PCA insertion & reception node selects PCA signal to transmit a PCA output signal, in which a switch condition SWC is replaced with the switch condition SWC received in the pass-through signal input, and a signal condition SC indicating 'PCA' is set, and when receiving a pass-through signal having the signal condition SC of 'PCA inapplicable', the PCA insertion & reception node selects the pass-through signal input and outputs the pass-through signal input to the PCA output signal. **(See Figure 7 and Paragraphs 120 and 121. Alagar's system has the capability to indicate a request to switch from active or working channel to a protected channel and vice versa. It has ability to indicate to each node that if the switch to PCA is needed or if transmission is to persist on the WCA. Further it is not clear if signal condition is the value of the signal or the condition that caused the signal to assume such a value.)**

Alagar fails to expressly disclose a second function portion for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path.

NICC discloses a function portion for setting a transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. **(See Virtual Container (VC) Protection Section on page 23.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Alagar's apparatus to incorporate for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. The motivation being Alagar describing in Paragraph 40 that signaling protocol may be embedded in some overhead layer in the case of non-SONET traffic which SDH is an example and NICC document adequately describes the implementation detail on page 23.

7. Regarding **claim 4**, Alagar teaches a SDH ring network, wherein when receiving a drop or pass-through signal having a signal condition SC of 'PCA', the PCA insertion & reception node selects a PCA signal in the pass-through signal input and outputs the PCA signal, and when receiving a drop or pass-through signal having a signal condition SC of other than 'PCA', the PCA insertion & reception node outputs an alarm indication signal (AIS) in the PCA output signal. **(See Figure 7 and Paragraphs 120 and 121.**

Alagar's system has the capability to indicate a request to switch from active or working channel to a protected channel and vice versa. It has ability to indicate to each node that if the switch to PCA is needed or if transmission is to persist on the WCA. Further it is not clear if signal condition is the value of the signal or the condition that caused the signal to assume such a value.)

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NICC discloses a function portion for setting a transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. **(See Virtual Container (VC) Protection Section on page 23.)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Alagar's apparatus to incorporate for setting transmission value into the K3 or K4 byte in the overhead part of an SDH signal independently on the working path and the protection path. The motivation being Alagar describing in Paragraph 40 that signaling protocol may be embedded in some overhead layer in the case of non-SONET traffic which SDH is an example and NICC document adequately describes the implementation detail on page 23.

8. **Claims 7, 11, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alagar in view of NICC as applied to claims 1-4 above, and further in view of Verpooten.

The combination of Alagar and NICC, teaches all aspects of the claimed invention as set forth in the rejections of claims 1-4 including the transmission & reception node fixes a signal condition SC indicating 'PCA applicable' and a switch condition SWC indicating 'no request for switchover' **(See Alagar's Figure 7 and Paragraphs 120 and 121)** in the K3 or K4 byte for the protection path, and the PCA insertion node continues inserting a PCA signal. **(See NICC Page 23 – last paragraph)**

Verpooten teaches a method to signal a failure in a mixed PDH/SDH network in order to enable the SDH node to provide a service such as protection mechanism.

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Verpooten discloses a SDH ring network (**See Figure 1**), wherein the transmission & reception node monitors a PDH input signal and detect a failure in the PDH input signal. (**See Column 5, Lines 50-63**)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Alagar's and NICC's apparatus to incorporate monitoring a PDH input signal and detecting a failure in the PDH input signal to provide channel protection. The motivation being able to provide a protection mechanism in a mixed PDH/SDH network as stated by Verpooten in Column 2, Lines 39-42.

9. **Claims 5, 9, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Alagar in view of NICC as applied to claims 1-4 above, and further in view of Verpooten.

The combination of Alagar and NICC, teaches all aspects of the claimed invention as set forth in the rejections of claims 1-4 including the PCA insertion & reception node fixes a selection condition so as to select a pass-through signal input, to obtain the UPSR configuration without applying PCA so as to shorten a failure relief time. (**See Alagar's Figure 7 and Paragraphs 120 and 121**) in the K3 or K4 byte for the protection path, and the PCA insertion node continues inserting a PCA signal.

Verpooten discloses a SDH ring network (**See Figure 1**), wherein the transmission & reception node monitors a PDH PCA input signal and detect a failure in the PDH PCA input signal. (**See Column 5, Lines 50-63**)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination of Alagar's and NICC's apparatus to incorporate monitoring a PDH PCA input signal and detecting a failure in the PDH PCA input signal to provide channel protection. The motivation being able to provide a protection mechanism in a mixed PDH/SDH network as stated by Verpooten in Column 2, Lines 39-42.

Allowable Subject Matter

10. **Claims 6, 8, 10, 12, 14, and 16** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. **Claims 6, 10, and 14** are allowable over the prior art of record since the cited references taken individually or in combination fail to particularly disclose the step of a SDH ring network monitors a VCn input signal, and on detection of a failure in the VCn input signal, the transmission & reception node fixes a signal condition SC indicating 'PCA applicable' and a switch condition SWC indicating 'no request for switchover' in the K3 or K4 byte for the protection path, and the PCA insertion node continues inserting a PCA signal. It is noted that the closest prior art, Alagar et al (US Pub. No. 2003/0169470), discloses the monitoring and protection mechanism provided at the tributaries signal level.

12. **Claims 8, 12, and 16** are allowable over the prior art of record since the cited references taken individually or in combination fail to particularly disclose the step of a SDH ring network wherein the PCA insertion & reception node monitors a VCn PCA

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signal input, and on detection of a failure in the VCn PCA signal input, the PCA insertion & reception node fixes a selection condition so as to select a pass-through signal input, to obtain the UPSR configuration without applying PCA. It is noted that the closest prior art, Alagar et al (US Pub. No. 2003/0169470), discloses the monitoring and protection mechanism provided at the tributaries signal level.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

11-11-2005
HM


JOHN PEZZLO
PRIMARY EXAMINER